

10/618,320 G proteins, polynucleotide encoding the same and utilization thereof

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1	333667	60.638	
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10/618,320 G proteins, polynucleotide encoding the same and utilization thereof

GenCore version 5.1.7

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OM protein - protein search, using sw model

Run on: March 2, 2006, 19:29:36 ; Search time 142.364 Seconds
(without alignments)
1413.528 Million cell updates/sec

Title: US-10-618-320A-1
Perfect score: 2400
Sequence: 1 MGLCYSLRPLLFGGPGDDPC.....VFNDCRDIIQRMHLKQYELL 458

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2443163 seqs, 439378781 residues

Total number of hits satisfying chosen parameters: 2443163

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_21:*

- 1: geneseqp1980s:*
- 2: geneseqp1990s:*
- 3: geneseqp2000s:*
- 4: geneseqp2001s:*
- 5: geneseqp2002s:*
- 6: geneseqp2003as:*
- 7: geneseqp2003bs:*
- 8: geneseqp2004s:*
- 9: geneseqp2005s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Match	Query Length	DB	ID	Description
1	2400	100.0	458	8	ADG74722	Adg74722 Human G-p
2	2400	100.0	458	9	AEA17292	Aea17292 Human XLG
3	2124	88.5	448	8	ADG74746	Adg74746 Mouse G-p
4	2113	88.0	450	8	ADG74747	Adg74747 Rat G-pro
5	1819	75.8	381	5	ABB09272	Abb09272 G protein
6	1819	75.8	381	7	ADC09607	Adc09607 Human G-p
7	1819	75.8	381	7	ADE61907	Ade61907 Human Pro
8	1819	75.8	381	8	ADU60726	Adu60726 Human G-p
9	1819	75.8	381	9	ADX26261	Adx26261 Novel cel
10	1819	75.8	381	9	AEA17294	Aea17294 Human Gol
11						

SUMMARIES

Result No.	Score	% Match	Query Length	DB	ID	Description

1	2400	100.0	458	8	ADG74722	Adg74722 Human G-p
2	2400	100.0	458	9	AEA17292	Aea17292 Human XLG
3	2124	88.5	448	8	ADG74746	Adg74746 Mouse G-p
4	2113	88.0	450	8	ADG74747	Adg74747 Rat G-pro
5	1819	75.8	381	5	ABB09272	Abb092 1811 75.5 381 7 A
12	1559	65.0	756	5	ABG60299	Abg60299 Lymphona
13	1559	65.0	756	6	ABP97657	Abp97657 Amino aci
14	1559	65.0	909	8	ADQ26060	Adq26060 Guanine n
15	1559	65.0	909	8	ABM82265	Abm82265 Tumour-as
16	1559	65.0	909	9	ADX06936	Adx06936 Cyclin-de
17	1540	64.2	379	4	AAB99060	Aab99060 Human G-p
18	1540	64.2	379	5	ABB09269	Abb09269 G protein
19	1540	64.2	379	7	ADC09604	Adc09604 Human G-p
20	1540	64.2	379	7	ADJ68299	Adj68299 Human hea
21	1540	64.2	379	8	ADU60723	Adu60723 Human G-p
22	1537	64.0	720	6	ABP56694	Abp56694 GCRI:Gs f
23	1536.5	64.0	755	8	ADM79379	Adm79379 Mouse lym
24	1529.5	63.7	380	3	AAB23382	Aab23382 Human G-a
25	1529.5	63.7	380	4	AAB99058	Aab99058 Human G-p
26	1529.5	63.7	380	4	AAB99061	Aab99061 Human G-p
27	1529.5	63.7	380	5	ABB09270	Abb09270 G protein
28	1529.5	63.7	380	7	ADC09605	Adc09605 Human G-p
29	1529.5	63.7	380	7	ADP70778	Adp Adx06936 Cyclin-de
17	1540	64.2	379	4	AAB99060	Aab99060 Human G-p
18	1540	64.2	379	5	ABB09269	Abb09269 G protein
19	1540	64.2	379	7	ADC09604	Adc09604 Human G-p
20	1540	64.2	379	7	ADJ68299	Adj68299 Human hea
21	1540	64.2	379	8	ADU60723	Adu60723 Human G-p
22	1537	64.0	720	6	ABP56694	Abp56694 GCRI:Gs f
23	1536.5	64.0	755	8	ADM79379	Adm79379 Mouse lym
24	1529.5	70778	Minicell			
30	1529.5	63.7	380	8	ADQ26061	Adq26061 Guanine n
31	1529.5	63.7	380	8	ABM82267	Abm82267 Tumour-as
32	1529.5	63.7	380	8	ADU60724	Adu60724 Human G-p
33	1526.5	63.6	926	4	AAU04387	Aau04387 GPCR-Gs f
34	1526.5	63.6	926	7	ADL96550	Adl96550 G protein
35	1526.5	63.6	926	9	ADW44723	Adw44723 Human RUP
36	1526.5	63.6	926	9	AEB20907	Aeb20907 Human RUP
37	1525.5	63.6	394	2	AAR94559	Aar94559 Human Gs
38	1525.5	63.6	394	5	ABB09267	Abb09267 G protein
39	1525.5	63.6	394	5	ABG60304	Abg60304 Lymphona
40	1525.5	63.6	394	6	ABP97662	Abp97662 Amino aci
41	1525.5	63.6	394	7	ABR82636	AbR82636 C. elegans
42	1525.5	63.6	394	7	ADC09602	Adc09602 Human G-p
43	1525.5	63.6	394	7	ADP70779	Adp70779 Minicell
44	1525.5	63.6	394	8	ADQ26059	Adq26059 Guanine n
45	1525.5	63.6	394	8	ABM82266	Abm82266 Tumour-as

ALIGNMENTS

RESULT 1

ADG74722

ID ADG74722 standard; protein; 458 AA.

XX

AC ADG74722;

XX

DT 22-APR-2004 (first entry)

XX

DE Human G-protein Gml amino acid sequence.

XX

KW G protein; Gml; G protein-coupled receptor mediated signal transduction;

KW GTP binding site; GTPase site; G protein alpha subunit;

KW signal transduction; G-protein-coupled receptor.

XX

8Q Sequence 458 AA;

Query Match 100.0%; Score 2400; DB 9; Length 458
 CC that the N-terminus of the XLGolf protein is altered compared to Golf
 CC with a different exon 1. Specifically, it refers to contacting the GPCR
 CC with a test compound, and determining GPCR activity, where a change in
 CC activity indicates that the compound is a modulator thereof. The present
 CC invention describes the GPCR as a Gs coupled GPCR that is selected from
 CC dopamine receptor D1, adenosine A2a receptor, and adrenergic beta-2
 CC receptor. Accordingly, the composition and methods are useful for
 CC identifying modulators of GPCR activity, as well as for diagnosing or
 CC treating schizophrenia and other psychiatric disorders. Furthermore, the
 CC pharmaceutical compositions derived thereof exhibit neuroleptic activity
 CC and can be used for gene therapy purposes. This polypeptide sequence is
 CC th;

Best Local Similarity 100.0%; Pred. No. 6.3e-200;

Matches 458; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy	1	MGLCYSLRPLLFGGPGDDPCAASEPPVEDAQAPAPALAPVRAAARDTARTLLPRGGE	60
Db	1	MGLCYSLRPLLFGGPGDDPCAASEPPVEDAQAPAPALAPVRAAARDTARTLLPRGGE	60
Qy	61	PACARPKADKPKEKRQRTQLSAEEREAAKEREAVKEARKVSRGIDRMLRDQKRD	120
Db	61	PACARPKADKPKEKRQRTQLSAEEREAAKEREAVKEARKVSRGIDRMLRDQKRD	120
Qy	121	RLLLLGAGESGKSTIVQMRILHVNGFNPPEKKQKILDIRKNVKDAIVTIVSAMSTI	180
Db	121	RLLLLGAGESGKSTIVQMRILHVNGFNPPEKKQKILDIRKNVKDAIVTIVSAMSTI	180
Qy	181	VPLANPENQFRSDYIKSIAPITDPEYSQEFFDHVKKLWDDGEGVKACFERSNEYQL	240
Db	181	VPLANPENQFRSDYIKSIAPITDPEYSQEFFDHVKKLWDDGEGVKACFERSNEYQL	240
Qy	241	YFLERIDSVSLVDYTPDQDLRCRVLTSIGIFETRFQVDKVNPFHMFVGGQDR	300
Db	241	YFLERIDSVSLVDYTPDQDLRCRVLTSIGIFETRFQVDKVNPFHMFVGGQDR	300
Qy	301	CFNDVTAIIVAACSSYNMVIREDNNTNRLRESLDLFESIWNNRWLRTISII	360
Db	301	CFNDVTAIIVAACSSYNMVIREDNNTNRLRESLDLFESIWNNRWLRTISII	360
Qy	361	LAEKVLGAKSKIEDYFPEYANYTVPEDATPDAGEDPKVTRAKFFIRDLFLRIS	420
Db	361	LAEKVLGAKSKIEDYFPEYANYTVPEDATPDAGEDPKVTRAKFFIRDLFLRIS	420
Qy	421	HCYPHPTCAVDTENIRRVFNDCRDIIQRMHLKQYELL	458
Db	421	HCYPHPTCAVDTENIRRVFNDCRDIIQRMHLKQYELL	458

RESULT 3

ADG74746

ID ADG74746 standard; protein; 448 AA.

XX

AC ADG74746;

XX
DT 22-APR-2004 (first entry)
XX
DE Mouse G-protein Gml amino acid sequence.
XX
KW G protein; Gml; G protein-coupled receptor mediated signal transduction;
KW GTP binding site; GTPase site; G protein alpha subunit;
KW signal transduction; G-protein-coupled receptor; mouse; murine.
XX
OS Mus musculus.
XX
PN EP1382613-A1.
XX
PD 21-JAN-2004.
XX
PF 09-JUL-2003; 2003EP-00015519.
XX
PR 16-JUL-2002; 2002JP-00206841.
PR 19-DEC-2002; 2002JP-00367778.
PR 31-MAR-2003; 2003JP-00095955.
XX
PA (SUMO) SUMITOMO CHEM CO LTD.
XX
PI Takahashi Y, Matsumoto Y, Oeda K;
XX
DR WPI; 2004-111483/12.
DR N-PSDB; ADG74748.
XX
PT New protein useful as a therapeutic or prophylactic agent against a
PT disease caused by an abnormality in a G-protein coupled receptor mediated
PT signal transduction.
XX
PS Claim 1; SEQ ID NO 25; 85pp; English.
XX
CC This invention relates to a novel G protein (Gml). The protein is
CC involved in a G protein-coupled receptor mediated signal transduction.
CC The protein of the invention has a sequence with a high homology with a
CC GTP binding site and a GTPase site conserved among G protein alpha
CC subunits. The protein, the DNA sequence which encodes it and an antibody
CC specifically recognising the protein of the invention may be useful as a
CC therapeutic or prophylactic agent against a disease caused by an
CC abnormality in a G-protein coupled receptor mediated signal transduction.
CC The invention may also be useful for screening for a substance capable of
CC regulating a signal transduction mediated by a G-protein-coupled receptor
CC and a protein. The present sequence is that of the mouse Gml protein
CC which is related to the human Gml protein of the invention.
XX
SQ Sequence 448 AA;

Query Match .88.5%; Score 2124; DB 8; Length 448;
Best Local Similarity 91.0%; Pred. No. 6.7e-176;
Matches 417; Conservative 6; Mismatches 25; Indels 10; Gaps 3;

Qy	1	MGLCYSLRLPLFLFGPGDDPCAASEPPVEDAQAPAPALAPVRAAARDTARTLLPRGGEQS	60
Db	1	MGLCYSLRLPLFLFGSPEDTPCAASEPCARDAQPSAAPAPASIPAPA--PVGTLRLRGGGRI	58
Qy	61	PACARPKADKPKEKRQRTQLSABEREAAKEREAVKEARKVSRGIDRMLRDQKRLDQQT	120
Db	59	VANARPPGE--LQSRRRQEQRLRAEEREAA-----KEARKVSRGIDRMLREQKRLDQQT	110
Qy	121	RLLLLGAGESGKSTIVQMRILHVGNFPEEKKQKILDIRKNVKAIVTIVSAMSTIIPP	180
Db	111	RLLLLGAGESGKSTIVQMRILHVGNFPEEKKQKILDIRKNVKAIVTIVSAMSTIIPP	170
Qy	181	VPLANPENQFRSDYIKSIAPITDPEYSQEPFDHVVKLWDDEGVKACFERSNEYQLIDCAQ	240

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Db      171  VPLANPENQFRSDYIKSIAPITDPEYSQEFFDHVKKLWDDEGVKACFERSNEYQLIDCAQ 230
Qy      241  YFLERIDSVSLVDYTPPTDQDLLRCRVLTSGIFETRPQVDKVNPHMFDVGGQDERRKWIQ 300
Db      231  YFLERIDSVSLVDYTPPTDQDLLRCRVLTSGIFETRPQVDKVNPHMFDVGGQDERRKWIQ 290
Qy      301  CFNDVTATIIYVAACSSYNMVIREDNNTNRLRESLDLFESIWNNRWLRTISIIILFLNKQDM 360
Db      291  CFNDVTATIIYVAACSSYNMVIREDNNTNRLRESLDLFESIWNNRWLRTISIIILFLNKQDM 350
Qy      361  LAEKVLGAGSKIEDYFPEYANYTVPEDATPDAGEDPKVTRAKFFIRDLFLRISTATGDGK 420
Db      351  LAEKVLGAGSKIEDYFPEYANYTVPEDATPDAGEDPKVTRAKFFIRDLFLRISTATGDGK 410
Qy      421  HCYCPHFTCAVDTENIRRVFNDCRDIIQRMHLKQYELL 458
Db      411  HCYCPHFTCAVDTENIRRVFNDCRDIIQRMHLKQYELL 448

```

RESULT 4

ADG74747

ID ADG74747 standard; protein; 450 AA.

XX

AC ADG74747;

XX

DT 22-APR-2004 (first entry)

XX

DE Rat G-protein Gm1 amino acid sequence.

XX

KW G protein; Gm1; G protein-coupled receptor mediated signal transduction;

KW GTP binding site; GTPase site; G protein alpha subunit;

KW signal transduction; G-protein-coupled receptor; rat.

XX

OS Rattus norvegicus.

XX

PN BP1382613-A1.

XX

PD 21-JAN-2004.

XX

PF 09-JUL-2003; 2003EP-00015519.

XX

PR 16-JUL-2002; 2002JP-00206841.

PR 19-DEC-2002; 2002JP-00367778.

PR 31-MAR-2003; 2003JP-00095955.

XX

PA (SUMO) SUMITOMO CHEM CO LTD.

XX

PI Takahashi Y, Matsumoto Y, Oeda K;

XX

DR WPI; 2004-111483/12.

DR N-PSDB; ADG74749.

XX

PT New protein useful as a therapeutic or prophylactic agent against a
 PT disease caused by an abnormality in a G-protein coupled receptor mediated
 PT signal transduction.

XX

PS Claim 1; SEQ ID NO 26; 85pp; English.

XX

CC This invention relates to a novel G protein (Gm1). The protein is
 CC involved in a G protein-coupled receptor mediated signal transduction.
 CC The protein of the invention has a sequence with a high homology with a
 CC GTP binding site and a GTPase site conserved among G protein alpha
 CC subunits. The protein, the DNA sequence which encodes it and an antibody
 CC specifically recognising the protein of the invention may be useful as a
 CC therapeutic or prophylactic agent against a disease caused by an

CC abnormality in a G-protein coupled receptor mediated signal transduction.
 CC The invention may also be useful for screening for a substance capable of
 CC regulating a signal transduction mediated by a G-protein-coupled receptor
 CC and a protein. The present sequence is that of the rat Gml protein which
 CC is related to the human Gml protein of the invention.
 XX

SQ Sequence 450 AA;

Query Match 88.0%; Score 2113; DB 8; Length 450;
 Best Local Similarity 90.2%; Pred. No. 6.1e-175;
 Matches 415; Conservative 7; Mismatches 26; Indels 12; Gaps 4;

```

Qy      1 MGLCYSLRPLFLFGGPGDDPCAASEPPVEDAQ--APAPALAPVRAAARDTARTLLPRGGE 58
      ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db      1 MGLCYSLRPLFLFGSSGDAPCEDSEPCAEQAQPSAAPAPAPAPIPAPA--PVGTLRLRGDG 58

Qy     59 GSPACARPKADKPKEKRQTEQLSAEREAAKEREAVKEARKVSRGIDRMLRDQKRDLLQ 118
      ||| : : : ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db     59 RIPASARSPVE--LQNRREQQLRAEEREA-----KEARKVSRGIDRMLREQKRDLLQ 110

Qy    119 THRLLLLGAGESGKSTIVKQMRILHVNGFNPEKKQKILDIRKNVKDAIVTIVSAMSTII 178
      ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db    111 THRLLLLGAGESGKSTIVKQMRILHVNGFNPEKKQKILDIRKNVKDALVTIIISAMSTII 170

Qy    179 PPVPLANPENQFRSDYIKSIAPITDFEYSQEFFDHVKKLWDDEBGVKACFERSNEYQLIDC 238
      ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db    171 PPVPLANPENQFRSDYIKSIAPITDFEYSQEFFDHVKKLWDDEBGVKACFERSNEYQLIDC 230

Qy    239 AQYFLERIDSVSLVDYTPDQDLLRCRVLTSGIFETRQVDKVNPFMFVGGQDERRKRW 298
      ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db    231 AQYFLERIDSVSLVDYTPDQDLLRCRVLTSGIFETRQVDKVNPFMFVGGQDERRKRW 290

Qy    299 IQCFNDVTAIYVACSSYNMVIREDNNTNRLRESLDLFESIWNNRWLRTISIIILFLNKQ 358
      ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db    291 IQCFNDVTAIYVACSSYNMVIREDNNTNRLRESLDLFESIWNNRWLRTISIIILFLNKQ 350

Qy    359 DMLAEKVLGKSKIEDYFPEYANYTVPEDATPDAGEDPKVTRAKFFIRDLFLRISTATGD 418
      ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db    351 DMLAEKVLGKSKIEDYFPEYANYTVPEDATPDAGEDPKVTRAKFFIRDLFLRISTATGD 410

Qy    419 GKHYCPHFTCAVDTENIRRVFNDCRDIIQRMHLKQYELL 458
      ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db    411 GKHYCPHFTCAVDTENIRRVFNDCRDIIQRMHLKQYELL 450
  
```

RESULT 5
 ABB09272

ID ABB09272 standard; protein; 381 AA.

XX

AC ABB09272;

XX

DT 10-JUL-2002 (first entry)

XX

DE G protein-coupled receptor (GPCR) >g-olf SEQ ID NO:18.

XX

KW Target activated nucleic acid biosensor; signalling moiety; GPCR;

KW nucleic acid sensor; detection; engineering; drug optimisation;

KW G protein-coupled receptor.

XX

OS Homo sapiens.

XX

PN WO200222882-A2.

XX

PD 21-MAR-2002.

XX

PF 13-SEP-2001; 2001WO-US028835.